

1. A polypeptide comprising 3 or more immuno-repeat units of surface exposed fragments of the major outer membrane protein (MOMP), wherein each immuno-repeat comprises an amino acid sequence which comprises the variable domain 1 (VD1) region of the MOMP chosen from any *Chlamydia* species serotype, wherein the amino acid sequences are optionally linearized.

2. The polypeptide according to claim 1, wherein the immuno-repeats are homologous.

3. The polypeptide according to claim 1, wherein the amino acid sequences comprising the VD1 region of the MOMP from any *Chlamydia* species serotype are placed next to each other.

4. The polypeptide according to claim 1, wherein the immuno-repeats are heterologous.

5. The polypeptide according to claim 1, wherein the MOMP from any *Chlamydia* species serotype is from *Chlamydia pneumoniae* or serotype D, E, F, G, Ia or J of *Chlamydia trachomatis*.

6. The polypeptide according to claim 1, further comprising one or more of a variable domain 2 and a variable domain 3, each of the MOMP from any *Chlamydia* species serotype.

7. The polypeptide according to claim 1, wherein the amino acid sequences are linearized.

8. The polypeptide according to claim 1, wherein the amino acid sequences comprising the VD1 region of the MOMP from any *Chlamydia* species serotype are spaced with a linker.

9. The polypeptide according to claim 1, comprising an amino acid sequence defined in formula II:

yy1-VD1-yy2 (Formula II)

wherein

VD1 is independently selected from SEQ ID NO. 1-6 or an amino acid sequence which has at least 80% sequence identity herewith SEQ ID NO: 1-6,

and

yy1 consists of

i) the amino acid sequence  
DAISMRVGYYGDFVFDRVLKTDVNKEFQMG  
(SEQ ID NO 7) or

ii) A subsequence of the amino acid sequence in i) said subsequence comprising 1-30 amino acid residues, starting with the C-terminal G in the amino acid sequence in i)

and

yy2 consists of

iii) The amino acid sequence NPAYGRHMQDAE-MFTNAA (SEQ ID NO 8) or

iv) A subsequence of the amino acid sequence in iii) said subsequence comprising 1-18 amino acid residues, starting with the N-terminal N in the amino acid sequence in iii).

10. The polypeptide according to claim 1, comprising the amino acid sequence selected from the group consisting of SEQ ID NO.: 9-14 and 45-48.

11. The polypeptide according to claim 1, comprising 4 or more immuno-repeat units of surface exposed fragments of the major outer membrane protein (MOMP), wherein each immuno-repeat comprises an amino acid sequence which comprises the variable domain 1 (VD1) region of the MOMP chosen from any *Chlamydia* species serotype.

12. The polypeptide according to claim 1, further comprising a moiety that facilitates export of the polypeptide when produced recombinantly, a moiety that facilitates purification of the fusion protein, or a moiety which enhances immunogenicity.

13. The polypeptide according to claim 12, wherein the enhancer of immunogenicity is an additional T-cell target which is chosen from a *Chlamydia trachomatis* (Ct) antigen selected from the group consisting of CT043, CT004, CT414, CT681, and an immunogenic portion or fragment thereof.

14. The polypeptide according to claim 13, comprising the amino acid sequence selected from the group consisting of SEQ ID NO: 60-68.

15. The polypeptide according to claim 14, comprising the amino acid sequence SEQ ID NO: 64.

16. A nucleic acid encoding the polypeptide according to claim 1.

17. A pharmaceutical composition comprising the polypeptide according to claim 1 and one or more of a pharmacologically acceptable carrier, excipient, adjuvant, and immune modulator.

18. The pharmaceutical composition according to claim 17, which comprises a pharmacologically acceptable adjuvant selected from DDA/TDB and alum.

19. The pharmaceutical composition according to claim 17, which comprises a pharmacologically acceptable carrier in the form of a virus like particle.

20. A method for preventing, treating, or reducing the incidence of *Chlamydia* species infections in a subject, said method comprising administering an effective amount of a polypeptide according to claim 1 to said subject.

21. A method for preventing, treating, or reducing the incidence of *Chlamydia* species infections in a subject, said method comprising administering an effective amount of a nucleic acid according to claim 16 to said subject.

22. A method for preventing, treating, or reducing the incidence of *Chlamydia* species infections in a subject, said method comprising administering an effective amount of a pharmaceutical composition according to claim 17 to said subject.

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